REMARKS

As noted previously, the Applicant appreciates the Examiner's thorough examination of the subject application. Additionally, Applicant appreciates (i) removal of the finality of the previous Office Action and (ii) removal of U.S. Patent Publication No. U.S. 2004/0244837 to Nawata et al. ("Nawata") as a basis for the claim rejections.

Claims 1-11 and 21-30 are pending in the application and were rejected in the non-final Office Action mailed 02 December 2008 on various statutory grounds, described in further detail below. Claims 1-11 and 21-30 are listed herein as previously presented in Applicant's last paper. No new matter has been added.

Applicant requests reconsideration and further examination of the subject application in light of the following remarks.

Claim Rejections – 35 U.S.C. § 103

Concerning items 2-3 of the Office Action, claims 1-11 and 21-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,865,205 to Wilmer ("Wilmer") in view of U.S. Patent No. 6,193,212 to Ohmi et al. ("Ohmi"). Applicant respectfully traverses the rejection and requests reconsideration for the following reasons.

A conclusion of obviousness requires that the reference(s) relied upon be enabling in that it/they put the public in possession of the claimed invention. This is not the case here, as will be explained. In particular, the cited references fail to teach or suggest each and every limitation of the claims at issue, including the limitation of calculating mass flow when the outlet valve is open and as gas is exiting the open outlet valve.

The system of claim 1 (representative of the independent claims pending in the application) includes a first (inlet) and a second (outlet) valve and a pressure transducer/sensor that are connected to a chamber and to a controller. The controller is configured and arranged to control the operation
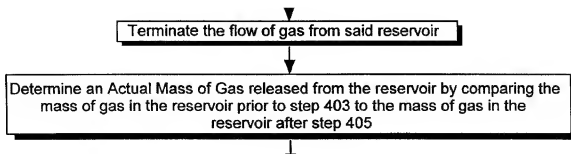
of the valves so that a precise mass of a gas can be delivered through the second valve and calculated in real time when the outlet valve is open.

Of particular note, <u>Applicant's controller continuously monitors pressure and temperature of the gas within the chamber, and calculates the actual mass delivered by Applicant's system while ("when") the outlet valve is open and delivering gas,</u> thereafter closing the outlet valve at the precise time that a mass flow set point is calculated as having been reached, wherein the time is from about 100 milliseconds to about 500 milliseconds

Wilmer is cited as the primary reference for the rejection. <u>The system of Wilmer operates by comparing gas quantities in a reservoir before and after gas delivery to determine the mass delivered.</u> In this regard, Wilmer is similar to Nawata's pulse shot regulator and pulse shot regulating method and does not teach or suggest Applicant's claimed techniques (systems and methods) for calculating actual mass delivered in real time when an output valve is opened and delivering gaseous mass and then causing the valve to close when the actual mass delivered reaches a desired amount.

The system and method of Wilmer fill a gas reservoir with gas, measures the temperature and pressure of the gas in the reservoir to determine the initial amount in the reservoir. After this, an outlet valve is opened, releasing gas through a variable flow valve and a sonic nozzle. See, e.g., Wilmer, col. 3, lines 1-10. The flow of gas is then stopped and again the system measures the temperature and pressure of the gas in the reservoir to determine the final amount in the reservoir. See, e.g., Wilmer, col. 3, lines In this regard, <u>the system of Wilmer is similar to Nawata's pulse shot regulator and pulse shot regulating method.</u>

The Wilmer system calculates mass in a reservoir before and after delivery of gas using a subtractive calculation to calculate the mass delivered only after the outlet valve is closed and the mass has been delivered. See, e.g., Wilmer, col. 9, lines 11-18 (including "The actual mass of gas released from the reservoir is then calculated by subtracting the final mass calculation from the initial mass calculation.") and the related portion of Wilmer FIG. 5, infra:

8

> **Terminate the flow of gas from said reservoir**

> **Determine an Actual Mass of Gas released from the reservoir by comparing the mass of gas in the reservoir prior to step 403 to the mass of gas in the reservoir after step 405**

Importantly, if the mass in the gas flow delivered by the Wilmer system is insufficient for required purposes, the only recourse is to correct the error by a subsequent delivery process as the Wilmer system (like that of Nawata) does not measure actual mass delivered by the system when the outlet valve is in an open condition.

Thus, the system of Wilmer is similar to Nawata's pulse shot regulator and pulse shot regulating method and does not teach or suggest Applicant's claimed techniques (systems and methods) for calculating actual mass delivered in real time when an output valve is opened and delivering gaseous mass and then causing the valve to close when the actual mass delivered reaches a desired amount.

Because of the foregoing reasons, the combination of Wilmer and Ohmi is an improper basis for a rejection of claims 1-11, and 21-30 under 35 U.S.C. § 103(a), and the rejections should be removed accordingly.

Conclusion

In view of the amendments and remarks submitted herein, Applicant respectfully submits that all of the pending claims in the subject application are in condition for allowance, and respectfully request a Notice of Allowance for the application.

If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

Authorization is hereby given to charge our deposit account, No. 50-1133, for any fees required for the prosecution of the subject application.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

Date: 15 December 2008   /G. Matthew McCloskey/
G. Matthew McCloskey, Reg. No. 47,025
Attorney for Applicant
28 State Street
Boston, MA 02109-1775
Telephone: (617) 535-4082
Facsimile: (617)535-3800